ASKO

BUILT TO LAST LONGER

Service manual
Dishwasher - DW Outdoor

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Service manual

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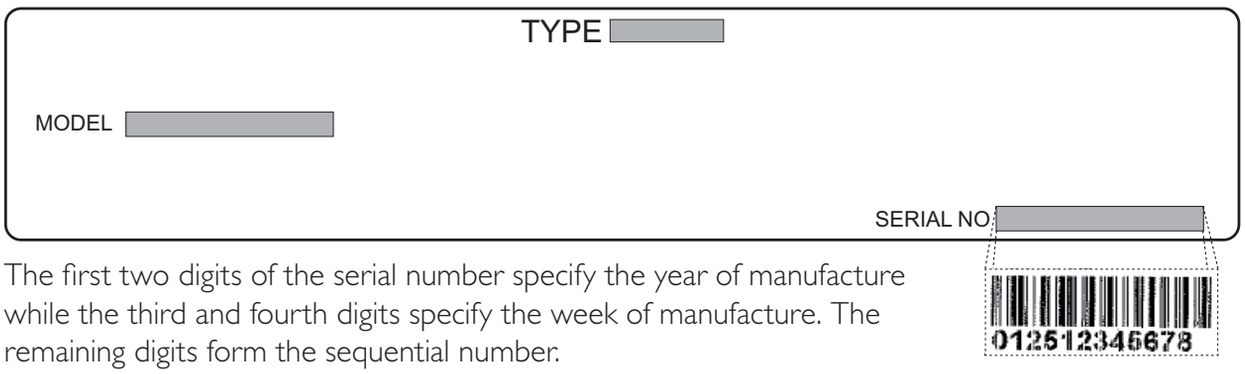
Updates

Rev	Date	Description	Initials
01	2011-09-29	First version	FH
02	2011-10-20	New document structure	FH
03	2011-11-15	Updated wiring diagram	ISC

Introduction

You are holding the Service manual for the DW90 generation of dishwashers.

The DW90 dishwasher series is available in several different models. The DW Outdoor model, that this guide is focusing on, is designed for outdoor use. The type designation is most important when identifying a particular machine model. This information can be found on the serial number plate on the right of the inside of the door, where the machine's model designation is specified.



The first two digits of the serial number specify the year of manufacture while the third and fourth digits specify the week of manufacture. The remaining digits form the sequential number.

It should be easy to service a dishwasher. It is important that you, as a service technician, are afforded conditions that enable you to work in an efficient and satisfactory way. Our hope is that this service manual will prove a useful tool in your daily work.

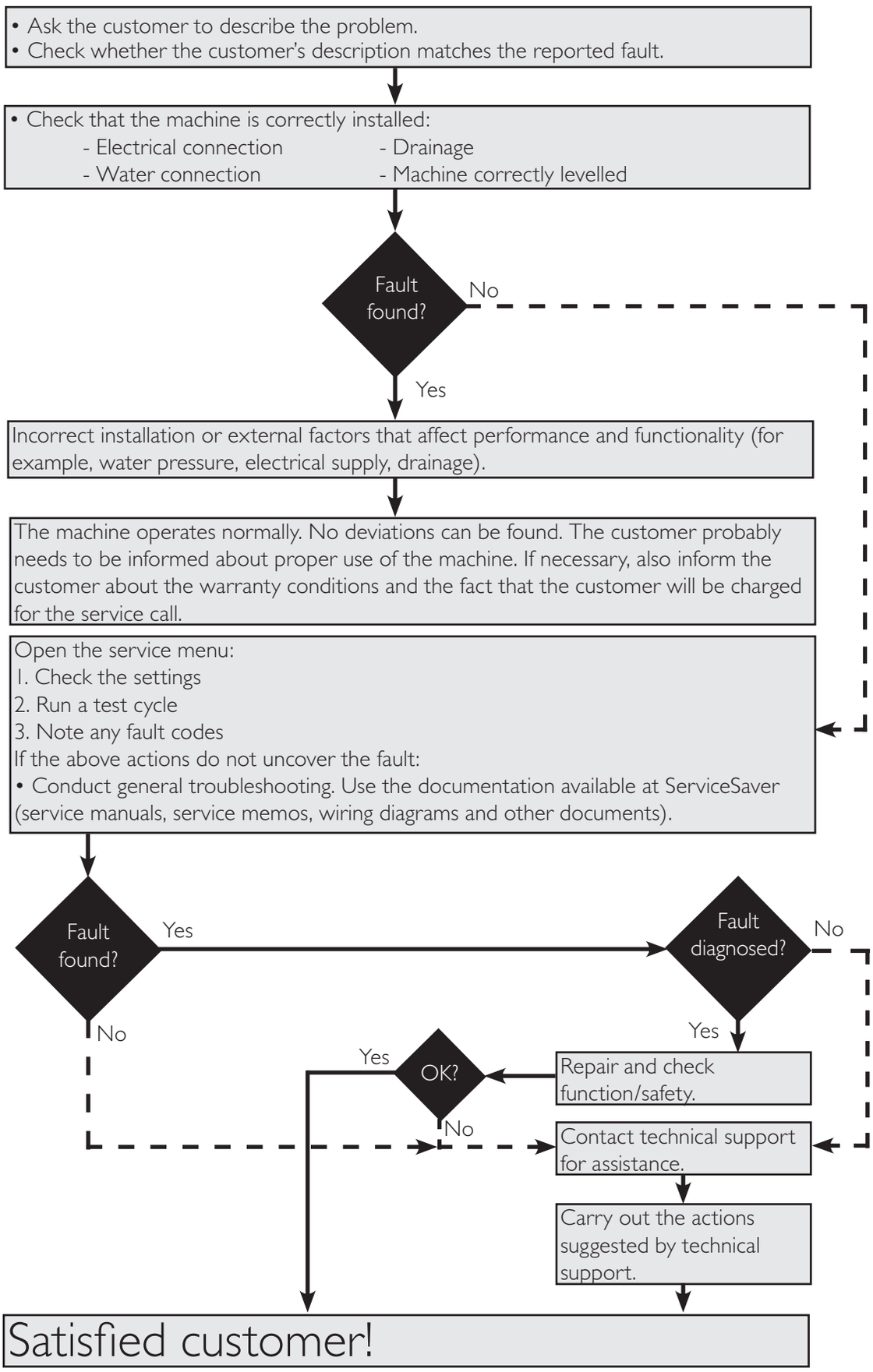
Asko Appliances AB
SE-534 82 Vara
Sweden

OPERATING INSTRUCTIONS

Always have the operating instructions for the machine available during service

Troubleshooting strategy

Troubleshooting is an important part of the service call, so we have drawn up a troubleshooting strategy that describes, in broad terms and step by step, what you need to do to find and diagnose faults arising in our machines.


• Ask the customer to describe the problem.
• Check whether the customer's description matches the reported fault.
• Check that the machine is correctly installed:
- Electrical connection
- Water connection
- Drainage
- Machine correctly levelled
Fault found?
No
Yes
Incorrect installation or external factors that affect performance and functionality (for example, water pressure, electrical supply, drainage).
The machine operates normally. No deviations can be found. The customer probably needs to be informed about proper use of the machine. If necessary, also inform the customer about the warranty conditions and the fact that the customer will be charged for the service call.
Open the service menu:
1. Check the settings
2. Run a test cycle
3. Note any fault codes
If the above actions do not uncover the fault:
• Conduct general troubleshooting. Use the documentation available at ServiceSaver (service manuals, service memos, wiring diagrams and other documents).
Fault found?
Yes
No
Fault diagnosed?
No
Yes
OK?
Yes
No
Repair and check function/safety.
Contact technical support for assistance.
Carry out the actions suggested by technical support.
Satisfied customer!

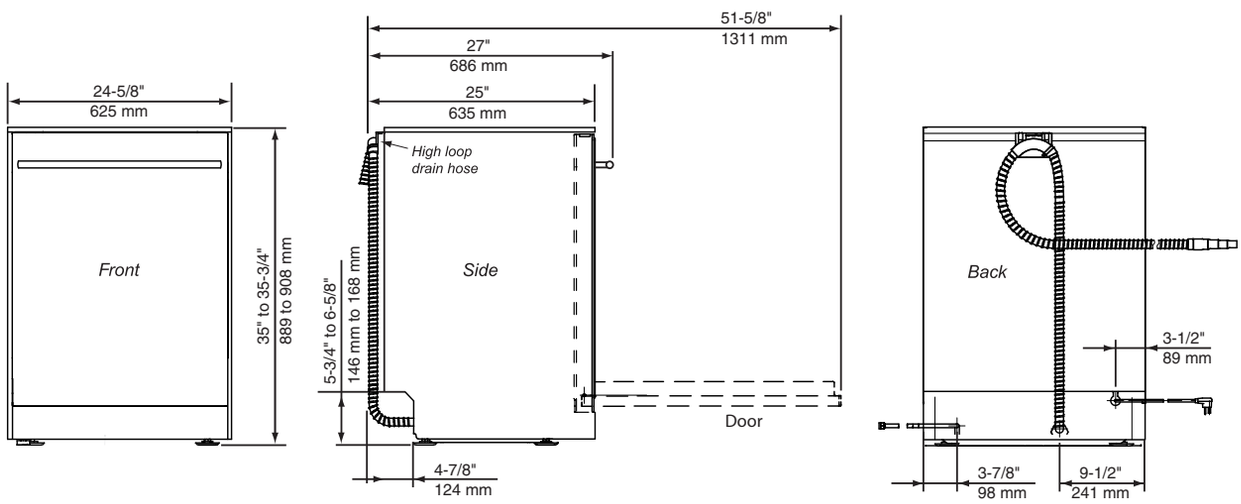
Types

DW Outdoor

The machine has 9 set programs, but can be specified with up to 16 programs. The touch buttons and display are usually found on the top. Certain variants are supplied with a display on the front.

Dimensions

	US	Metric
Height	35" to 35 3/4"	889-908 mm
Width	24 5/8"	625 mm
Depth (inkl. High loop)	25"	635 mm
Depth W/Handle	27"	686 mm
Depth W/Door open	51 5/8"	1311 mm
Weight (freestanding)	163 lb	74 kg



Technical Data

Connection	1-phase, 120V, 60 Hz, 15 A**
	1-phase, 230 V, 50/60 Hz, 10 A/16 A**
Water pressure	0.03–1.0 MPa
	0.3–10 kp/cm^2
	4.3-140 psi
Heating element	1200 W**
	1600 W**
Max. rated power	1300 W**
	1700 W**

* According to EN 50242 standard.
** See type plate.

Component description

Components and measurement values

The specified resistance values apply at room temperature (about 20°C/68°F)
Values within ±10% are considered normal.

Article no.	Component		Measurement value
8073779	EMC-filter with inductor		680 kohm
8083041	Filter with screwplint		1 Mohm
8079504	Heating element 1600 W 230 V		32 ohm
8079505	Heating element 1200 W 120 V		12 ohm
8078096	Thermistor		60 kohm
8083094	Combi disp. 230 V		1,32 kohm
8083095	Combi disp. 120 V		285 ohm
8078080	Circ.pump 220-240 V 50 Hz, 47 L (12.4 gallon)/min	Primary winding	115 ohm
8078080	Circ.pump 220-240 V 50 Hz	Auxiliary winding	260 ohm
8078082	Circ.pump 120 V 60 Hz, 47 L (12.4 gallon)/min	Primary winding	31,4 ohm
8078082	Circ.pump 120 V 60 Hz	Auxiliary winding	76 ohm
8078087	Drain pump 200-240 V 50 Hz, 16 L (4.2 gallon)/min		148 ohm
8078089	Drain pump 120V 60 Hz, 16 L (4.2 gallon)/min		26 ohm
8079502	Inlet valve single 200-240 V, 4 L (1 gallon)/min		3,9 kohm
8079503	Inlet valve single 120 V, 4 L (1 gallon)/min		0,95 kohm
8079500	Inlet valve security 220-240 V, 4 L (1 gallon)/min		2 kohm
8079501	Inlet valve security 120 V, 4 L (1 gallon)/min		0,5 kohm
8073830	Halogen lamp 5 W/12 V		<10 kohm
8084147	Thermo Actuator 110-240 V		0,85-1,2 kohm

* The number is for a complete water softener; replacement salt and mixer valves are not available separately.

Component description

Components and function description

Here we describe the function and specification of the most important components. Certain components are found only in more highly specified machines or in particular markets. See the *Troubleshooting* section for fault and information codes.

CU, Control Unit

The CU, or Control Unit, is a unit that functions as both a control panel and a logic component. The control panel is fitted with a display and touch buttons for selecting programs, options and Start/Stop. The control panel is an integrated part of the CU and cannot be replaced separately. The logic component manages functions needed for dishwashing programs and diagnosis. The CU has an internal power supply for the logic. In the event of a fault, the CU can diagnose a number of components and functions and display fault codes. To facilitate troubleshooting the service menu includes a component diagnostics function, which activates the outputs in a particular sequence.

Accelerometer

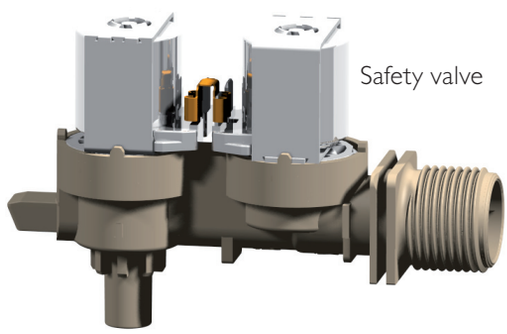
The control unit contains an accelerometer, a sensor that senses position and acceleration. It controls the touch buttons and the brightness of the light. The accelerometer turns off at a specific angle to avoid causing a distraction when seen from the worktop. It is calibrated when the door is closed.

If this symbol appears on the display the door is not open enough. Open the door until the display lights up.

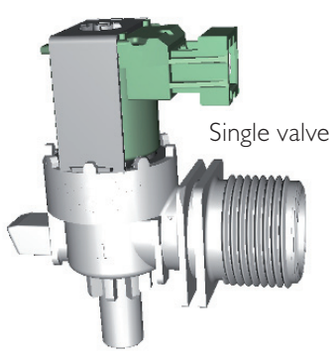
Inlet valve

The inlet valve has an electrical connector that is coded to ensure it is not mixed up. It is fitted with a filter, which can be removed for cleaning. Both single and safety valves are used as inlet valves. The inlet valve contains a filter to stop particles then a flow limiter to limit the flow to a maximum of 4 L (1 gallon)/min. It opens when the water pressure exceeds 0.3 bar (4.3 psi) and provides full flow at about 2 bar (29 psi). It has a pressure range of 0.3 bar (4.3 psi) to 10 bar (145 psi). The inlet valve is fitted to the air gap and can be replaced from the rear of the machine.

Purpose: To ensure that the machine is supplied with water for the different dishwashing cycles.

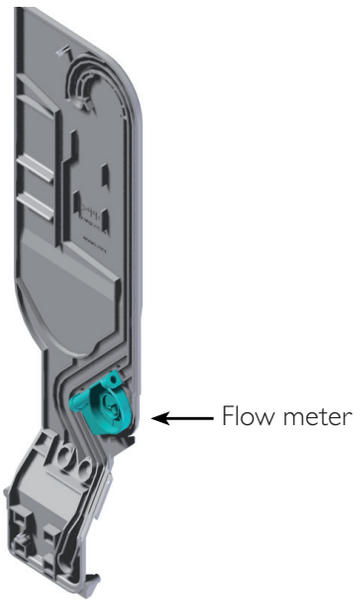


The safety valve has two independent valve seats, each controlled by a separate electromagnet. The valve seats are connected in series. This doubles the safety factor. The electromagnets are also connected in series (electrically), which means each magnet's rated voltage is half the line voltage (e.g., a 230 V valve = 2 x 115 V coils)



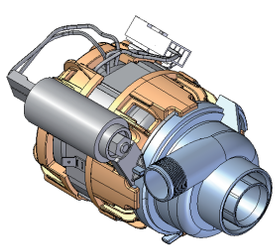
The single valve comprises an electromagnet and a valve seat.

Component description



Flow meter

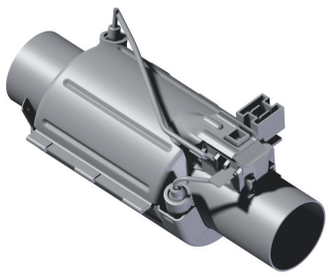
The flow meter is fitted in the air gap and cannot be replaced separately. It comprises an impeller that is rotated by the flow of water from the inlet valve. The impeller is fitted with two magnets that affect a sensor, a so-called reed switch. This is connected to the control unit via a wire and provides the control unit with information on the amount of water entering the machine. In order for the flow sensor to function normally the incoming water pressure must be at least 2 bar (29 psi). Output signal: 220 pulses per liter (0.26 gallon) of water flowing through.



Circulation pump

The circulation pump comprises an asynchronous motor with a capacitor and a pump housing with an impeller. The impeller and seals cannot be replaced separately, rather the entire pump must be replaced. The circulation pump can be rated 220-240V, 50/60Hz, as well as 120V, 60Hz.

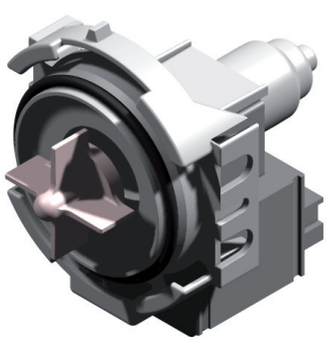
Purpose: To provide the spray system with the water pressure necessary for the dishwashing process.



Heating element

The heating element is of the flow-through type and is fitted between the bottom drain and the suction connector of the circulation pump. It comprises a pipe with a heating coil. One side of the heating coil is fitted with an overheating cut-out with a trigger temperature of 98°C (208°F) and an automatic reset. The other side is fitted with a safety fuse that blows at 229°C (444°F). The element is replaced from the rear of the machine by first moving the circulation pump out of the way.

Purpose: To heat the dishwater to the correct temperature during the prewash/main wash and final rinse.

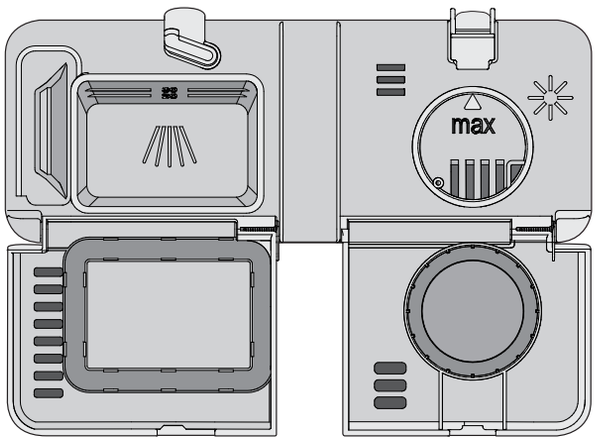


Drain pump

The drain pump is fitted to the bottom drain and can be replaced from the front of the machine. In the bottom drain, under the filters, is a access plug which when removed enables the customer to clean the pump housing. In the event of a blockage the pump changes its direction of rotation to try to clear the blockage.

Purpose: To drain the water from the cleaning compartment in accordance with the program specification and in case of overflow.

Component description



Detergent and rinse aid dispenser

The dispenser has one container for detergent and one container for rinse aid. The containers are opened by activating the electromagnet found on the lock of each container. When first activated detergent is dispensed and when activated a second time rinse aid is dispensed. A weight (which is activated when the door is opened for loading and unloading) resets the mechanism so that the dispenser always dispenses detergent first when a new program is started.

Door switch

A micro switch detects when the door has been opened. The programs is paused and power to certain components (circulation pump, valves and more) is cut. The programs continues where it left off when the door is closed. If a program is running the machine indicates that the door is open.

Purpose: To prevent the machine from running while the door is open.

Light

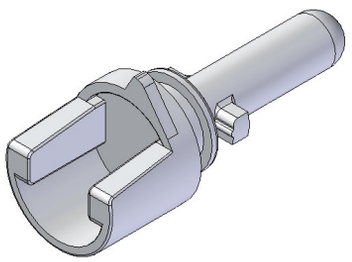
The light is a 5 W/12 V halogen bulb powered by the control unit via a micro switch. The lamp is activated when the door is opened more than 5° and automatically deactivated when the door has been open for more than 30 minutes. The control unit features protective components that limit the current to the light in case of a short circuit or if a bulb with too high a power rating is fitted. The bulb can be replaced from inside the cleaning compartment.

Air gap

The air gap is found next to the cleaning compartment. It comprises channels through which the incoming water flows into the cleaning compartment. These channels also contain an anti-backflow device and the flow sensor through which the water passes. Certain models are equipped with a water pocket that collects water used for the water softener (only machines with a water softener). The air gap also works as a channel of air taken in during the drying phase, as well as a pressure relief for excess air when opening and closing the door. On machines with Turbo Drying Express (TDE) a lid is mounted on the inside of the air gap. If there is condensation in the kitchen interiors, make sure the lid is correctly fitted.

Purpose: To prevent dirty water from the cleaning compartment being sucked back into the water supply, and lead air to and from the container.

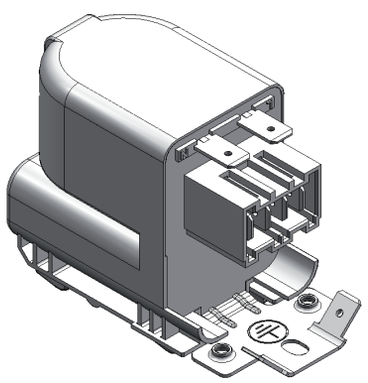
Component description



Thermistor

The thermistor for temperature measurement is located at the front edge of the bottom drain. The thermistor measures and controls the water temperature, which can be up to 70°C (158°F). If the thermistor short-circuits or loses contact with the CU, or of the thermistor does not register a temperature increase of 5°C (41°F) within 10 minutes of the element being activated, the element is switched off and a fault code is indicated. This is only indicated in the service menu. The thermistor is of the NTC type (Negative Temperature Coefficient), i.e. its resistance decreases as temperature increases.

Purpose: To control the water temperature during the dishwashing process.



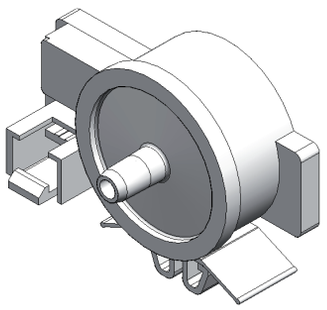
EMC filter with inductor

The filter is fitted at the front of the base pan and consists of a number of coils, condensers and resistors.

Purpose: To eliminate electromagnetic interference to and from the machine.

Cables

The machine is fitted with coded connectors to prevent incorrect wiring. The cables comply with the Rast 2.5 and Rast 5 standards.



Pressure sensor

The pressure sensor is connected to the pressure chamber in the bottom drain. It measures the pressure, which corresponds to the water level in the machine. If the water level in the machine is too high (for five consecutive seconds) the drain pump starts and all other components are switched off. When the correct level is reached, the program continues where it left off. If the level sensor generates an output signal of <1 VDC during the prewash (indicating a blocked filter), an additional prewash is activated with an SCS step.
The level sensor also controls the draining time (can be extended from 20 seconds to a maximum of 2 min). The sensor also checks the need to refill (such as if a bowl fills with water).

Purpose: To prevent overflow, to detect a 'blocked filter', when necessary refill the machine (such as if a bowl has filled with water), and to control the draining time.

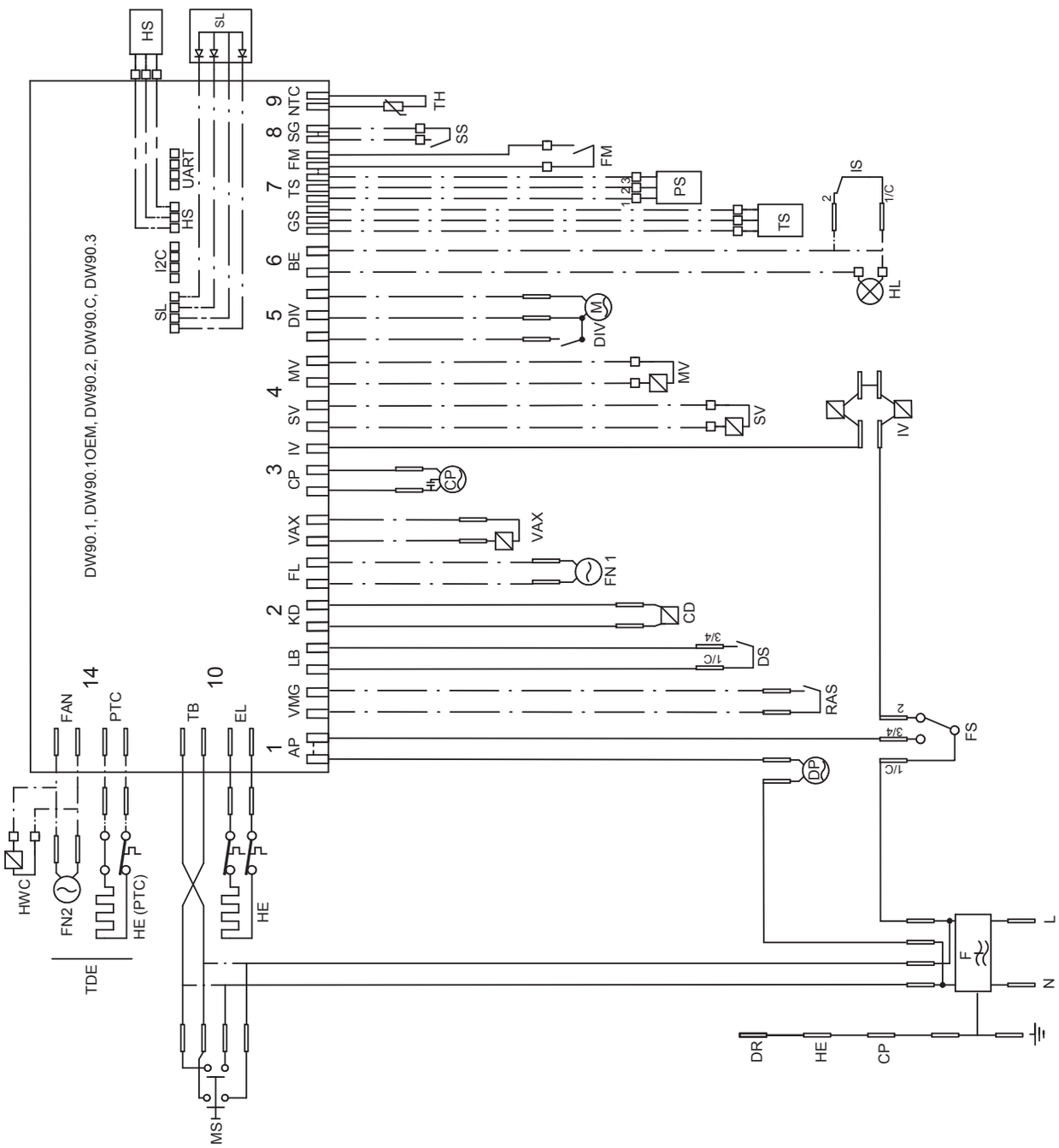
Overflow guard

The overflow guard is integrated with the bottom drain. This overflow guard consists of a micro switch activated by a float if water collects on the machine's base pan. The micro switch is normally closed. When it is activated, it breaks the circuit to the CU, the drain pump starts, the program is interrupted and the machine indicates an overflow.

Purpose: To provide protection from any water leaks or flooding from the machine.

Programs and control unit

Wiring diagram



CIRCUIT DIAGRAM DW90.1, DW90.1OEM, DW90.2, DW90.C, DW90.3

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Asko Appliances AB

FORMAT A4

KD/CD:	COMBI DISPENSER
CP:	CIRCULATION PUMP
DIV:	WATER DIVERTER VALVE
AP/DP:	DRAIN PUMP
DR:	DOOR
LB/DS:	DOOR SWITCH
F:	FILTER
FM:	FLOW METER
FL/FN 1:	FAN DOOR
FAN/FN 2:	FAN BOTTOM
FS:	FLOAT SWITCH
EL/HE:	HEATING ELEMENT
HE (PTC):	HEATING ELEMENT PTC
BE/HL:	HALOGEN LAMP
HS:	HUMIDITY SENSOR
IS:	ILLUM. SWITCH
IV:	INLET VALVE
I2C:	I2C
TB/MS:	MAIN SWITCH
MV:	MIX VALVE
TS/PS:	PRESSURE SENSOR
VMG/RAS:	RINSE AID SENSOR
SL:	STATUS LIGHT
SG/SS:	SALT SENSOR
SV:	SALT VALVE
NTC/TH:	THERMISTOR
GS/TS:	TURBIDITY SENSOR
UART:	UART
VAX:	VAX ACTUATOR
HWC:	HOT WATER CIRCUIT
————	WIRES IN ALL MACHINES
— — —	INTERNAL CONNECTION
— - —	WIRES IN SOME MACHINES

RESISTANCES AT ROOM TEMPERATURE (CA. 20°C/68°F)
VALUES WITH +/-10% ARE REGARDED AS NORMAL

COMPONENT	RESISTANCE
RADIO INTERFERENCE SUPPRESSION FILTER	1 MOHM
HEATING ELEMENT 1200W 120V	12 OHM
HEATING ELEMENT 1600W 230V	32 OHM
HEATING ELEMENT 2040W 230V	25 OHM
THERMISTOR	60 KOHM
COMBINED DISPENSER 120V	0,28 KOHM
COMBINED DISPENSER 230V	1,32 KOHM
CIRCULATION PUMP 120V 60HZ	32 OHM
CIRCULATION PUMP 230V 50HZ	110 OHM
CIRCULATION PUMP 220V 60HZ	56 OHM
DRAIN PUMP 120V 60HZ	25 OHM
DRAIN PUMP 230V 50HZ	150 OHM
DRAIN PUMP 230V 60HZ	85 OHM
SPRAY ARM DIVIDER 120V 60HZ	2.6 KOHM
SPRAY ARM DIVIDER 230V 50/60HZ	8,5 KOHM
INLET VALVE SINGLE INCL. 120V	0.95 KOHM
INLET VALVE SAFETY INCL. 120V	0.5 KOHM
INLET VALVE SINGLE INCL. 230V	3,9 KOHM
INLET VALVE SAFETY INCL. 230V	2 KOHM
SALT VALVE 120V	0,65 KOHM
MIX VALVE 120V	0,65 KOHM
SALT VALVE 230V	3 KOHM
MIX VALVE 230V	2,3 KOHM
HALOGEN LAMP 5W 12V	<10 KOHM
WAX MOTOR	1.1 KOHM
FAN MOTOR 120V	0.18 KOHM
FAN MOTOR 230V	0,85 KOHM
FAN MOTOR 2 120V	0,22 KOHM
FAN MOTOR 2 230V	0,90 KOHM

Troubleshooting

Dishwashing results

Check the following points if the dishes are not clean (always begin by checking any fault codes and the most recent fault indication in the service menu):

- That the customer is using the right dishwashing program.
- If heavily soiled dishes are being loaded, such as pots or oven dishes, choose a heavier program.
- Check that the customer is using a suitable dishwashing detergent, preferably one with proven good results.
- Detergent is a perishable product. Check that the detergent is not too old and that the customer is using the right amount. **Most importantly not too much detergent**.
- For machines with a water softener, dose as for soft water.
- Check that the customer is loading the machine correctly.
- Check that no dishes are preventing the spray arms from rotating and that the holes are not clogged.
- Check that the machine has the right water level. See the *Water level* section for more information.
- Check that the access plug on the left side of the bottom drain by the drain pump is in place.
- Check that the machine heats to the right temperature.

Film or marks on dishes after washing

- Is the water softener cover properly tightened?
- Is the rinse aid dispenser correctly adjusted?
- Is the water softener correctly adjusted?
- Is there any salt in the salt compartment?
- Is the right type of salt being used?

Common faults

If the dishwasher does not work, you should first check whether this is due to a simple fault, something that the customer can rectify. Use the following questions to troubleshoot the machine.

The machine will not start

- Has the house breaker/fuse been tripped or blown?
- Has the machine been turned on?
- Is the door properly closed?
- Is the water supply turned on?

If the answer to any of the above questions is "YES" and the machine seems to lack power, first check that there is power at the main power switch and the control unit. Replace any faulty component.

Water remaining in the machine

- Is the drain hose blocked? Check the connection to the household drain.
- Is the drain hose kinked?
- Are the filters blocked?
- Is the drain pump blocked?
- Is the access plug on the left side of the bottom drain by the drain pump incorrectly fitted?

If the fault cannot be found with the help of this chapter, open the service menu and perform a function test on all components

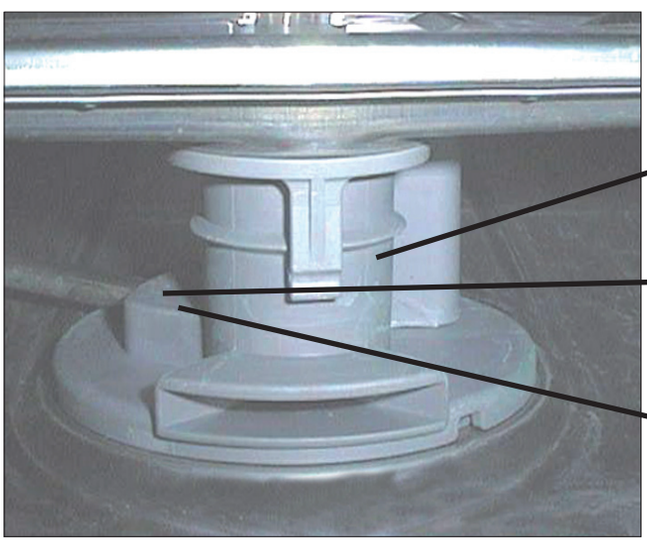
For more information, see the machine's **operating instructions**.

Troubleshooting

Water level DW90

When servicing a DW90 dishwasher it is important to check the water level in the machine. This is particularly important when programming the time-controlled water intake. Too low or too high water level can cause poor dishwashing results.

Always allow the machine to take in and drain the water a few times before checking the level.



Overflow level = 4.7 L (1.24 gallons)

Without spray arm diverter = 3.2 L (0.8 gallons)
(1.5 mm (1/16") above the level)

With spray arm diverter = 2.95 L (0.7 gallons)
(in line with the level)

Check the level against the lower spray arm hub

In the event of too low water level, the filter in the inlet valve must always be checked and rinsed clean of any sediment.

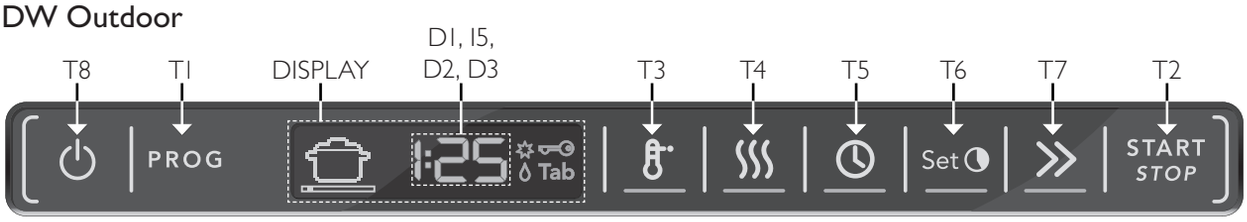
The inlet hose with a 3/4" connection at both ends has a filter in the connector outside the machine that must also be checked and rinsed clean of any sediment.

In the US the inlet hose has a 3/8" connection at both ends and no filter in the connector outside the machine.

Troubleshooting

Fault indication

DW Outdoor



L = LED, S / T = Push button, F = Fault code or plain text on display, D = Display, I = Indication

Tools

The following tools are needed to service the DW90 dishwasher:

Torx

T20
T25
T30

Ring spanner/wrench

7 mm
16 mm

Fixed open-end wrench, adjustable wrench, polygrip pliers/slip joint pliers

For cable fasteners, electrical and inlet valve
22 mm

Special tools

8801339	Universal tool, dishwasher
7281370	Hose clamp pliers, Oetiker
8801424	Universal tool, adapter water softener

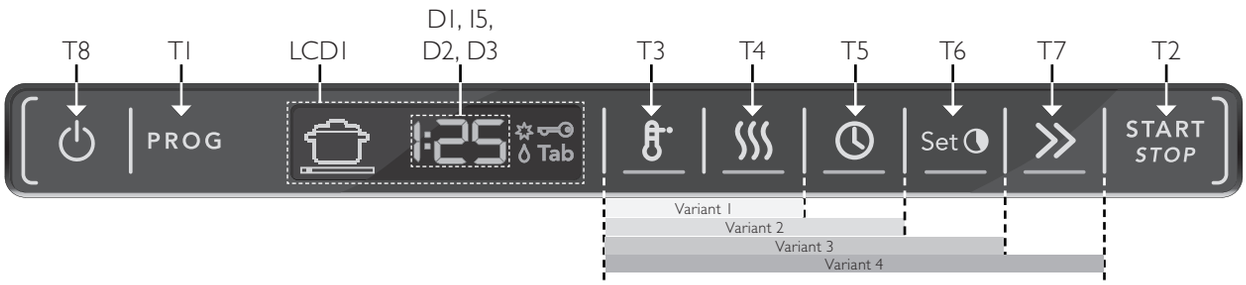
Troubleshooting

Fault and information codes

Audible signal sounds when a fault is indicated on the display.

Display	Cause	Action
☰☰☰	The door is open	Close the door
F:41	**Temp stop fault** Temperature increase less than 5°C (41°F) in ten minutes. Program continues with the process. Only indicated in service menu.	**Check** Element, thermistor, water level, circulation pump, control unit and cables.
F:10	**Overfilling** Too much water in the machine (pressure sensor) or float activated. If the water has not been emptied within 60 seconds, the program stops (drain pump activated).	**Check** Drain pump (blocked hose), flow meter, inlet valve, leaks and cables.
F:42	**Thermistor fault** Communication between the thermistor and control unit has stopped or the thermistor is reporting temperatures greater than 80°C (176°F). Program continues with the process. Only indicated in service menu.	**Check** Thermistor, plugs, wire harness, and control unit.
F:12	**Water inlet fault** < 80 pulses within 60 seconds or correct number of pulses not achieved within 255 seconds. Program stops.	**Check** Water inlet, flow meter, inlet valve and cables.
F:40	**Inlet valve leakage** Water intake detected when inlet valve deactivated in program sequence or standby. In this case the machine attempts to close the valve by opening it for 2 seconds and then closing it again. If water flow through the valve is still detected any current program is stopped (drain pump activated).	**Check** Leak through inlet valve and flow meter.
F:43	**Pressure sensor fault** Output signal > 4.8 V. The program continues. Only indicated in service menu.	**Check** Pressure sensor, control unit and cables.
F:11	**Water outlet fault** Water not drained after 120 seconds draining. Program stops.	**Check** Drain pump, hoses, drain hose fittings, control unit and cables. Also check whether filter is blocked.
F:44	**Turbidity sensor fault** Only indicated in service menu. The machine assumes high turbidity in case of "uncertainty" in the auto program.	**Check** Water quality, filters, turbidity sensor and drain system.
F:45	**Spray arm diverter fault** Position switch always closed or open. The program continues. Only indicated in service menu.	**Check** Spray arm diverter (functioning gearbox, switches and cables).

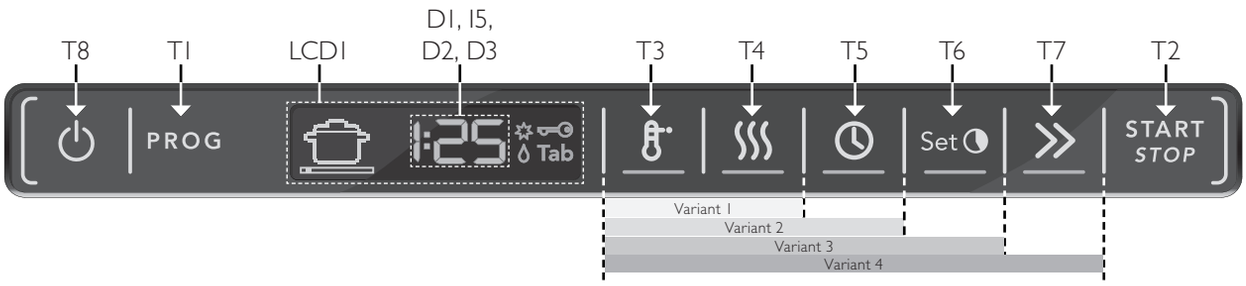
Service menu



Opening the service menu	
PROG + START	Open the door, put the machine in standby mode by pressing the main power switch (T8). Activate the machine again by pressing the button (T8), press and hold the program selector (T1) and (T2) for 5 sec. LCD shows: SERV. When the service menu is opened the most recent error message is shown, F:XX. All error messages are erased by a total reset. It is only possible to leave the service menu by pressing the button (T2). It is not possible to leave the service menu by using the main power switch (T8).
START	Press the button (T2) to navigate the menu system step by step.
PROG	Press the button (T1) to scroll between settings. Press (T2) to save the setting and continue to the next menu step.
START	Press (T2) at the last step of the menu to close the service menu and save the most recent settings.

Menu step/Turn/Push	LCD	Comments/instructions
START		
Diagnostics	d:01	Mixer valve and inlet valve on (1 second delay between mixer valve, if available, and inlet valve)
	d:02	Inlet valve and mixer valve, if available, off for 1 second then inlet valve on
	d:03	Salt valve on (if available)
	d:04	Combi dispenser on
PROG	d:05	Circulation pump on and the spray arm diverter (if available) shall alternate between positions 1 and 3 every 30 seconds
	d:06	Circulation pump and heater on - max. 75°C (167°F)
	d:07	Fan and Wax motor and Turbo Drying Express and Heating Water Circuit on
	d:08	Drain pump on
	d:00	No components on
START		
Water intake	P:0	Normal water intake volume, default setting
	P:5	Water intake volume increases by +5%
	P:10	Water intake volume increases by +10%
	P:15	Water intake volume increases by +15%
	L:0	Time, flow meter switched off, intake time: pulse value x 0.068 [s]
PROG	L:5	Time-controlled water intake increases by +5%
	L:10	Time-controlled water intake increases by +10%
	L:15	Time-controlled water intake increases by +15%
START		

Service menu



Menu step/Turn/Push	LCD	Comments/instructions
Variant **PROG**	U:1	Variant 1, default setting (Temperature, Drying)
	U:2	Variant 2 (Temperature, Drying, Delayed start)
	U:3	Variant 3 (Temperature, Drying, Delayed start, Time program)
	U:4	Variant 4 (Temperature, Drying, Delayed start, Time saver)
START		
Region **PROG**	EU	Region Europe, default setting
	US	Region USA
	AU	Region Australia
START		
Fan sequence **PROG**	Y:0	No fan sequence during program. Dries the load.
	Y:1	Fan works in sequence during the wash cycle, not in normal program, default setting
	Y:2	Fan works in sequence during the wash cycle, even during normal program
START		
TDE & HWC **PROG**	A:0	Turbo Drying Express and Heating Water Circuit off, default setting
	A:1	Turbo Drying Express on (Quick). Uses both hot water system and electrical energy to minimize program time.
	A:2	Heating Water Circuit on (ECO). Uses hot water system as far as possible, aided by electrical energy, to minimize energy consumption.
START		
Super rinse **PROG**	S:0	Super rinse off, default setting
	S:1	Super rinse on. Adds two extra rinses.
START		
Total reset **PROG**	r:0	No total reset next time T2 is pressed, default setting
	r:1	Total reset next time T2 is pressed. Should be done after replacing the control unit to reset all the sensors.
START		

Service and installation

Disassembling and reassembling the machine's casing

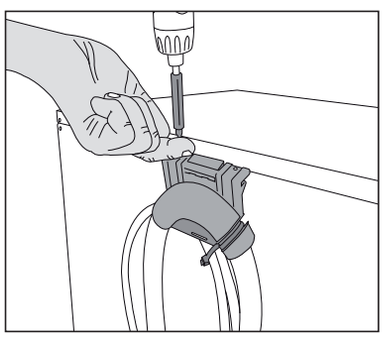
In order to access the machine's components, first we need to disassemble its casing, either in part or in full. Once servicing is completed, reassemble the casing with care so that it is properly resealed.

We recommend wearing gloves and using caution when removing the stainless steel panels that make up the casing of the machine. The panels, once removed, may have unfinished edges that could be sharp.

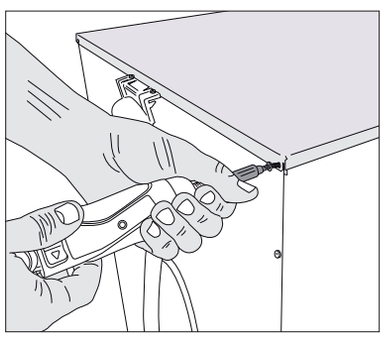
Be careful not to damage the casing and seals during disassembly and reassembly! It's a good idea to have new seals for the rear motor compartment on hand in case any of them get damaged and need replacing.

- **88 015 03 – Sealing kit DW Outdoor**

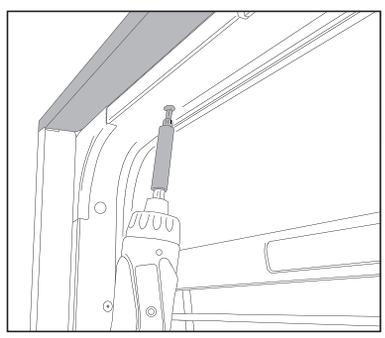
Top cover



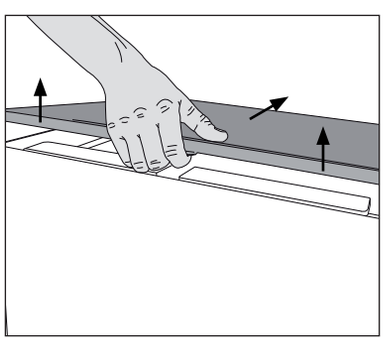
Remove the hose holder/high loop and undo the top cover



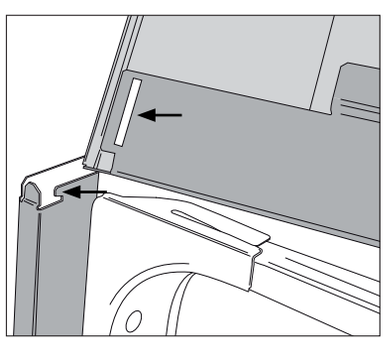
screws at the rear of the machine.



Also undo the screws running through the top edge of the cleaning compartment from inside the machine.

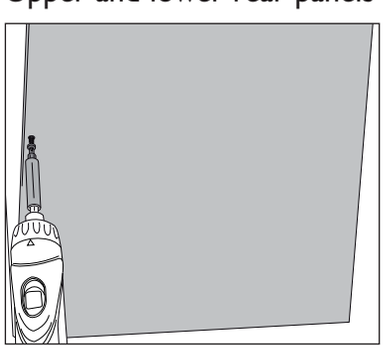


Then lift and slide the top cover forward 1 cm (1/2") or so to free the catches on

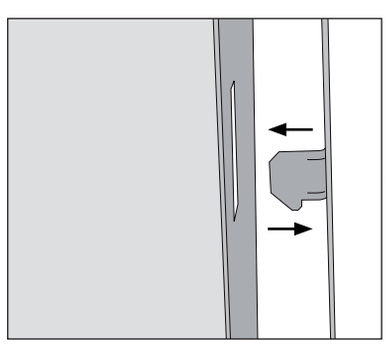


the side panels of the casing. Lift the top cover from the machine.

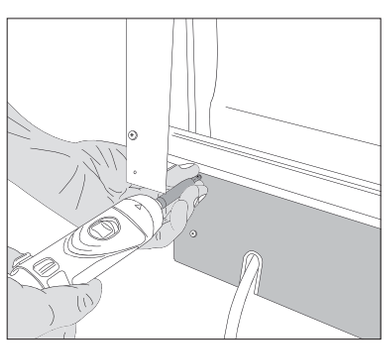
Upper and lower rear panels



Undo the screws in the rear panel and lift the bottom edge of the panel to free the



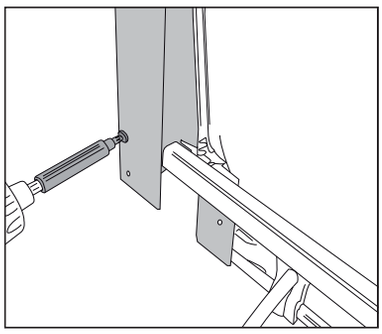
catches from the slots in the side panels. Remove the rear panel from the machine.



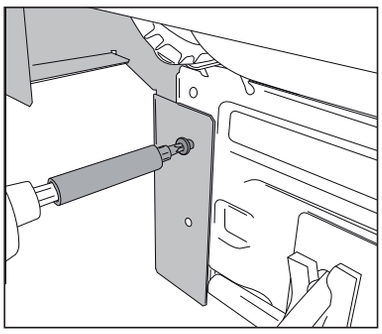
Undo the screws in the lower back panel.

Service and installation

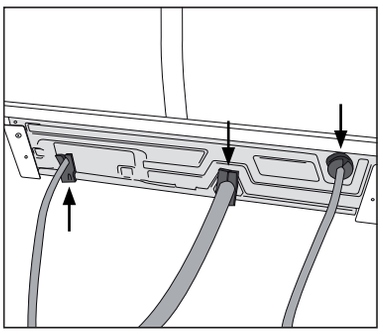
Rear motor compartment



Undo the screws in the side panel that attach to the cross support.



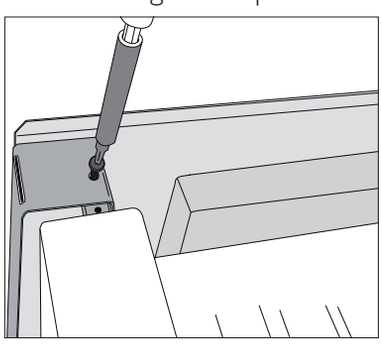
Next undo the screws in the back cover of the motor compartment. Angle out the side panels of the casing and open the back cover.



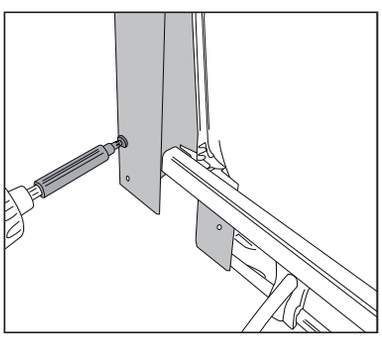
NOTE: The seals in the bushings for the inlet and outlet hoses, as well as for the power cable, may need replacing. Make sure you have new sealing kit on hand before starting any work.

Side panels

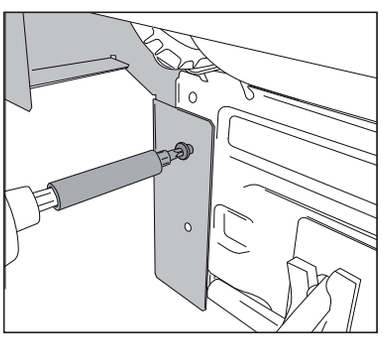
The two side panels of the casing only need to be removed when you need to access the machine's forward motor compartment and when you need to create more space for servicing the machine (see the "Increased working space during service" section). The air gap is located inside the right side panel..



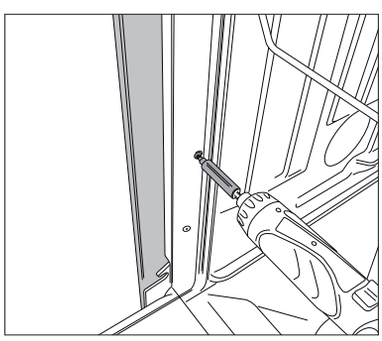
Undo the screw in the side panel mount in the rear upper corner.



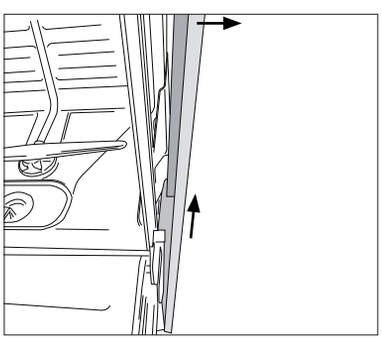
Undo the screw in the cross support at the rear of the machine.



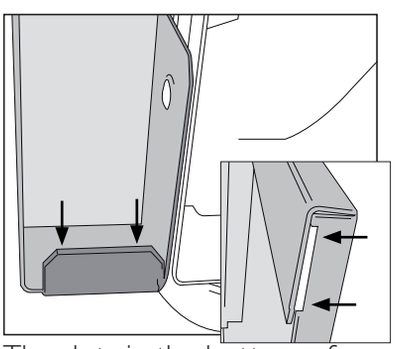
Next undo the screws in the back cover of the motor compartment.



Finally, open the door and undo the screws holding the side panel in place from the inside.



Angle out the top edge of the side panel and then lift the side panel to free it from the catches.

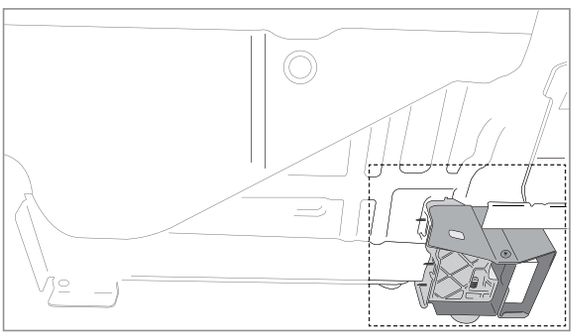


The slots in the bottom of the side panel keep it in place.

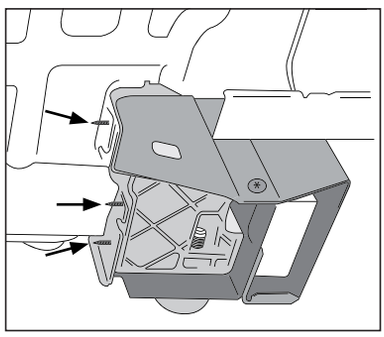
Service and installation

Forward motor compartment

In order to access the machine's forward motor compartment, you must first disassemble the entire casing and remove the toe kick and the tip guard.



The toe kick and the tip guard are at the front of the machine. They must be removed to access the forward motor compartment.



Undo the tip guard screws on either side of the machine. The front cover of the motor compartment can then be opened.

Reassembly

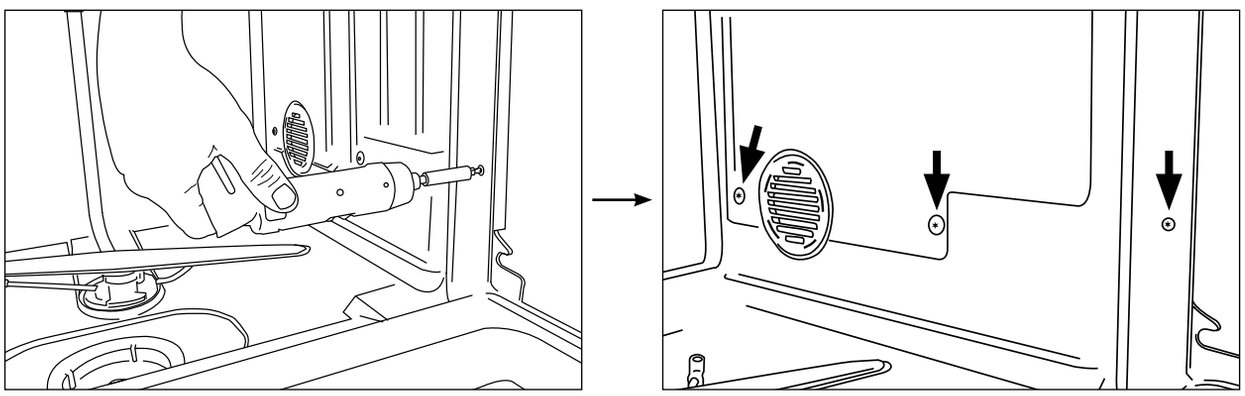
To reassemble after servicing, follow these instructions in reverse order.

Reassemble the casing with care so that it is properly resealed. If any casing seal or component is damaged, it must be replaced or repaired before reassembly.

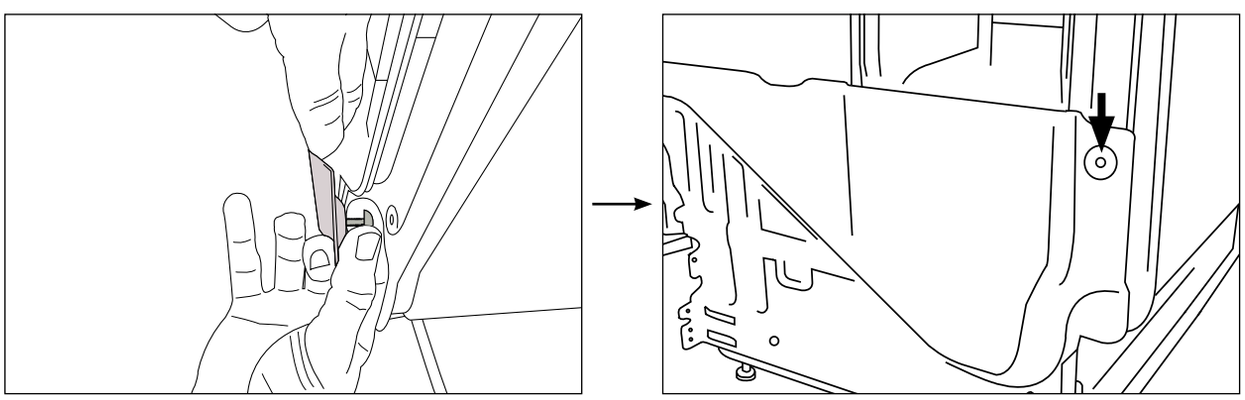
Service and installation

Increased working space during service

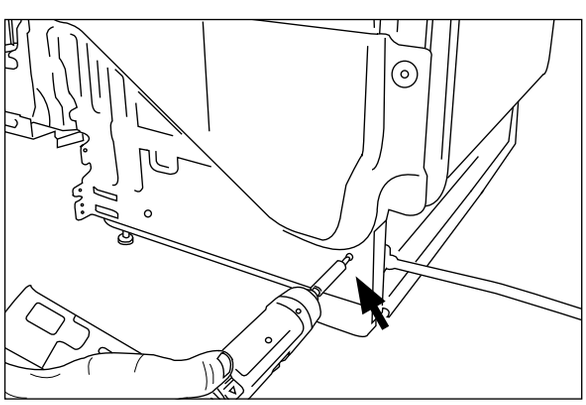
In order to facilitate servicing the machine you can open up the motor compartment by freeing the cleaning compartment along the rear edge and tipping it forward to create more space to work with.



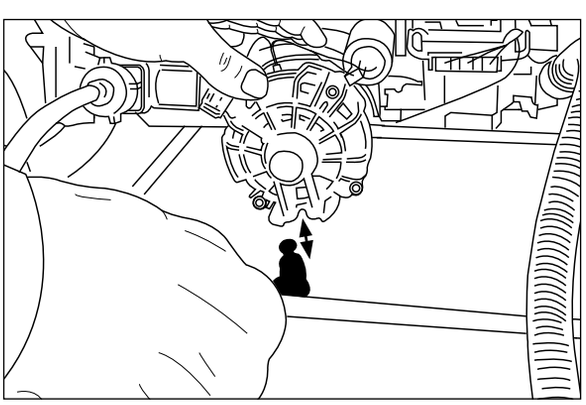
Remove the three screws on each side of the cleaning compartment.



Take one of the M6 screws (with O ring) and insert it in the rear hole on the inside of the base. Repeat for both sides of the machine.

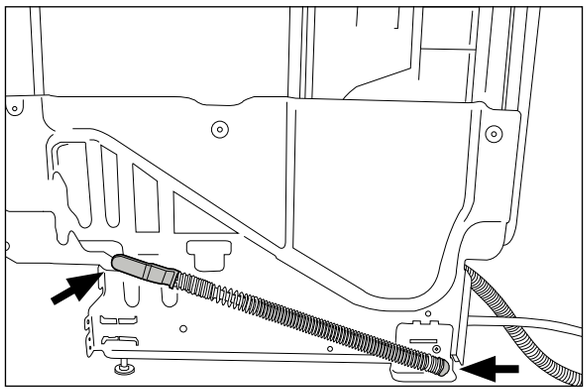


Remove the screw for the air gap.

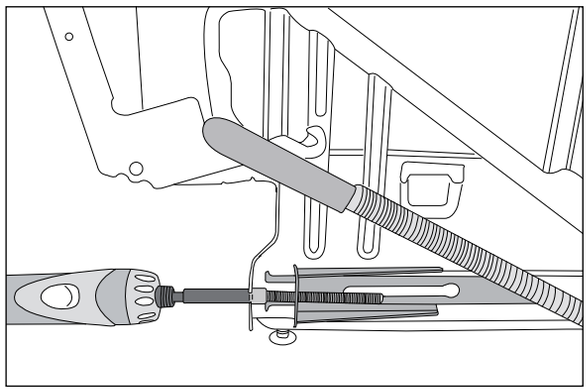


Loosen the circulation pump from the rubber mount.

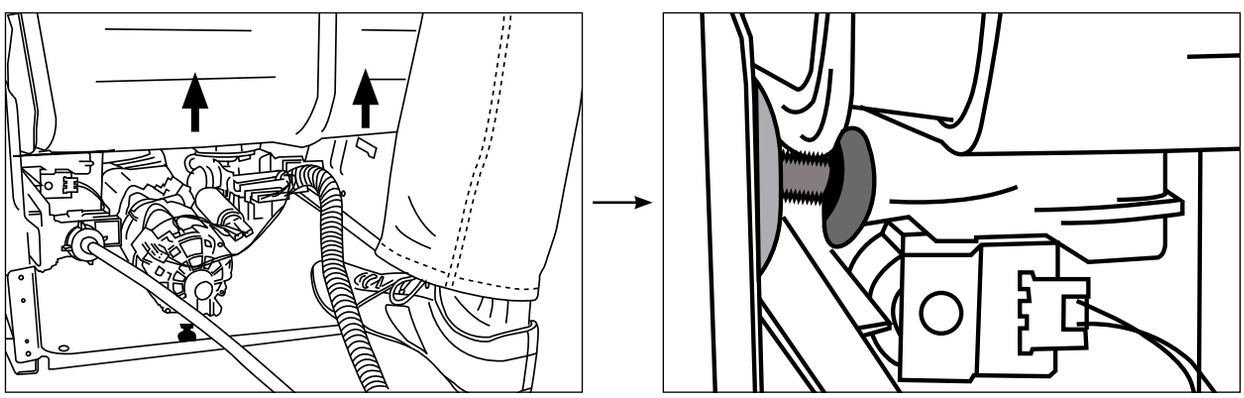
Service and installation



Ensure that both door springs are attached so that the door does not open and tip the machine.



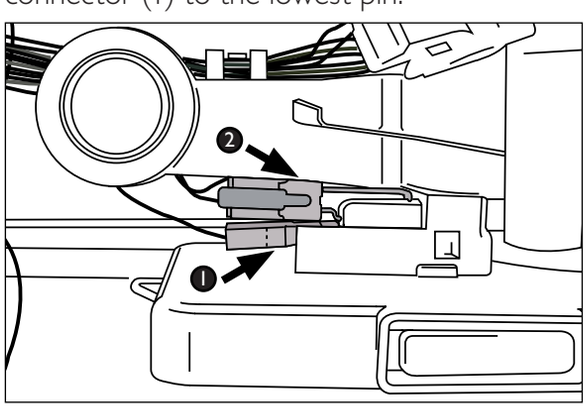
If the machine has door springs that can be adjusted from the front and is fitted with a water softener, the right door spring may need to be fully tensioned. Otherwise the spring mount may catch on the water softener when the cleaning compartment is lifted.



Put your foot on the base and lift the cleaning compartment up. Hang the cleaning compartment on the two screws previously placed in the rear holes on either side of the machine.

Overflow guard wiring

For service visits where the micro switch for the overflow guard is disconnected it is important that the cables are correctly reattached. If reattached incorrectly the machine will not start. Connect the 2-pin connector (2) to the two upper pins on the micro switch and the single pin connector (1) to the lowest pin.



PERSONAL NOTES

We reserve the right to make changes.